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SWAZILAND

ANNUAL MEDICAL & SANITARY REPORT

FOR THE YEAR 1951

LONDON SCHOOL OF
JUL 1961

SWAZILAND

ANNUAL MEDICAL AND SANITARY REPORT

FOR THE YEAR 1951.

I. ADMINISTRATION.

(a) Staff.

European.

Director of Medical Services
5 Medical Officers
1 Medical Officer (Health)
1 District Surgeon
1 Health Inspector
2 Hospital Assistants and Dispensers (one post in abeyance)
11 Nursing Sisters (one post vacant)
1 Clerk
1 Lady Clerk and Typist
1 Superintendent Leper Hospital (post vacant)
1 Malaria Medical Officer
1 Laboratory Assistant
1 Handyman
1 Dispenser, Storekeeper, Radiographer

African.

1 Senior Hospital Assistant
2 Hospital Assistants
1 Dispenser
44 Nurses
2 Out-Patient Attendants
2 Clerks
2 Ambulance Drivers
2 Dispensary Orderlies
21 Ward Attendants
6 Cooks
1 Night Watchman
1 Boiler Attendant
1 Office Messenger
3 Hospital Groundsmen
16 Laundresses
2 Seamstresses
10 Malaria Assistants
1 Health Office Clerk
1 Lorry Driver
2 Orderlies (Laboratory)

Appointments and Changes in European Staff.

Name	Office or Rank	Date of	
		Appointment	Resignation
A.J. Sowden	Superintendent Leper Hospital	-	31.12.50
T.J. Malherbe	Medical Officer	1. 4.51	-
Miss P.M. Hall	Nursing Sister	1. 7.51	-
W. Palliser	Handyman	1. 8.51	-
Miss C. Harvey	Nursing Sister	12.2.51	14. 7.51

Reliefs.

Name	Office or Rank	From	To
Dr. D. Drew, O.B.E.	Medical Officer	1. 1. 51 6.12. 51 17.12. 51	19. 1. 51 15.12. 51 29.12. 51

Distribution of European Medical and Nursing Staff on 31st December, 1951.

Name	Rank	Station
Dr. J.C.J. Callanan, O.B.E.	Director of Medical Services	Mbabane
Dr. H. Flack	Medical Officer	Mbabane
Dr. L.E.D.F. Joubert	Medical Officer	On leave
Dr. T.J. Malherbe	Medical Officer	Mbabane
Mrs. G.M. Sivewright	Nursing Sister	Mbabane
Miss M.K. Irvine	Nursing Sister	Mbabane
Miss V.M. Crighton	Nursing Sister	Mbabane
Miss P.M. Hall	Nursing Sister	Mbabane
W. Palliser	Handyman	Mbabane
Mrs. H. Perkins	Nursing Sister	Mankaiana
Dr. O. Arnheim	Medical Officer	Hlatikulu
Dr. C. Runciman	Medical Officer	Hlatikulu
Mr. J.L. van der Vyver	Hospital Assistant Dispenser	Hlatikulu
Miss E.H. Overton	Nursing Sister	Hlatikulu
Miss A.D. Killen	Nursing Sister	Hlatikulu
Miss J. Harding	Nursing Sister	Hlatikulu
Miss S. McCorkindale, M.B.E.	Nursing Sister	Goedgegun
Miss A. Martin	Nursing Sister	Hluti
Dr. O. Mastbaum	Malaria Medical Officer	Bremersdorp
Miss J. Bredell	Laboratory Assistant	Bremersdorp
Dr. A.E. Batchelor	Medical Officer (Health)	Bremersdorp
Mr. G.J. van Eeden	Health Inspector	Bremersdorp
-	Superintendent Mbuluzi Leper Hospital	Vacant

(b) LEGISLATION AFFECTING THE MEDICAL DEPARTMENT, ENACTED DURING THE YEAR.

High Commissioner's Notices No. 107 and No. 145 of 1951 (Abattoir Regulations).

(o) FINANCIAL.

Revenue 1951/52.

Hospital, Health Centre and other fees	£ 2436. 0. 0

Expenditure.

Personal Emoluments	£30,108.12. 6
Travelling allowance	£ 1505.14.11
Allowances and fees	£ 252. 5. 4
Maintenance of patients and purchase of medicines	£13,385. 7. 3
Laboratory Services, South African Institute for Medical Research	£ 100. 0. 0
Maintenance of Lepers	£ 361. 9. 8
Specialist treatment in Union Hospitals for indigents	£ - - -
Hospital equipment	£ 2294.16. 7
Uniforms for African Staff	£ 626.12. 6
Vaccination	£ 268. 4. 4
Drug Replacement	£ - - -
Subsidies for Medical Services:- Church of the Nazarene Mission of South Africa £2940 Red Cross £38, Roman Catholic Mission £100, Our Lady of Sorrows School £75, Medical Officer Mahamba £250 District Surgeon Stegi, £360	£ 3530.10. 0
Anti-Malaria Measures	£ 743.10. 0
High Commission Territories Nursing Council, Travelling and other expenses	£ 169. 7. 3
Upkeep of grounds	£ 43.12. 8
Upkeep of X-ray plants	£ 47.12. 0
Overseas passages	£ 575.19. 2
Anti-malaria drugs for sale	£ - - -
Transport On Stores	£ 976. 3. 9
	£56,534.15.11
Anti-Malaria and Public Health Campaign Scheme No. D.1084	£ 8211.19. 6
Leper Hospital Scheme No. D. 1017.	£ 1346.12.10
Extensions to Mbabane and Hlatikulu Hospitals and African Nurses Home, Bremersdorp, Scheme No. 1085	£16,612. 9. 6
Extension of Medical Services in the Lowveld Scheme No. D. 1505.	£ 764.12. 0
Total Expenditure on Medical and Sanitary Services	£83,470. 9. 9
Total Revenue of the Territory	£653,173. 0. 0

The relationship of Medical Expenditure (excluding Colonial Development and Welfare Fund Expenditure) to the total Revenue of the Territory	....8.65...%

II. PUBLIC HEALTH.

(I). General Diseases.

In August, the Goitre Research Committee appointed by the Medical Faculty of the University of Pretoria, carried out an investigation into the incidence of endemic Goitre in Swaziland, with a view to comparing the conditions under which the disease occurred in this territory, with those obtaining in the Union of South Africa. The method of investigation used in Swaziland was similar to that employed by the Committee in the Union, namely visiting schools and examining the children, and then visiting the homes of the goitrous children in order to collect specimens of soil, water, various constituents of diet, and examine other members of the family. Ten African and 2 European schools were visited, 1957 African and 285 European scholars were examined. The results are summarised in a table at the end of this section. On an average, 26% of the African children, and 4.5% of the European children were found to have enlarged thyroids, and in a fair proportion of the former the organ was markedly enlarged. The Survey included children from almost all parts of the territory, and revealed that the disease is ubiquitous, the worst areas being Mankaiana, Hlatikulu, Stegi, Bremersdorp (including Matapha), Mbabane, and Pigg's Peak. It was evident that endemic Goitre was prevalent amongst adult African women, but, as is customary, the highest incidence and the most advanced degrees of Goitre occurred in girls in the 12-20 age group.

An interesting feature is that the thyroid enlargements in Swaziland are soft (struma colloides) while in the north-western Cape Province the swellings are as a rule more firm (struma parenchymatosa) and are chiefly caused by fluorine which is present in harmful concentrations in the underground water supplies. A second interesting difference in the type of Goitre encountered in the north-western Cape Province and that occurring in Swaziland is that in the former area a fair percentage are nodular (struma nodosa) while only one nodular goitre was detected among some 500 cases of Goitre examined in Swaziland. The Committee found that the teeth of the children seen were in good condition, only two cases of mottling being observed, one in an African and one in an European child. They considered that the finding of water containing 19.0 p.p.m of fluorine in a bore-hole in the Bushveld amygdaloid, some 15 miles north of the Great Usutu River close to the Nyelane River, should serve as a warning that at least certain areas in Swaziland's underground water supplies may contain harmful concentrations of this element, and recommended that all such supplies used for drinking purposes should be analysed in order to avoid the possibility of fluorine poisoning.

The Geological Survey Department reported (1943) a fluorite deposit in Native Area 31 (Mineral Concession No. 7) ½ mile S.E.E. of Hluti P.O. assay of the material giving 97.2% calcium fluoride, and only 0.7% of silica, and a fluorite prospect near Mhlotsheni (1946) on Mineral Concession No.31, farm "Geluk" No. 100A. Water analyses conducted to date give the following results:-

Place	Fluorine p.p.m.
Nagana Borehole N.A. 31	0.20
Sipofaneni Hot Spring	0,40
Booth Ranch Borehole	19.00
Craggiemore Well	0.20
Sample from tap, Mr. A.C. Saunders, Mbabane	0.00
Sample from spring, Old Residency, Mbabane	0.00
Borehole in Karroo dolerites and amygdaloid, Gollel Hotel	0.40
Mineral Spring, Native Area No.11, on north bank of the Little Usutu	6.50

The present indications are that the high incidence of endemic goitre in Swaziland is attributable to a simple iodine deficiency in soil and water, and it has been recommended that the entire population should be supplied with iodized salt as soon as an assured source of supply becomes available.

The results of the analysis of specimens of water, food and soil collected by the Committee are still awaited.

						Size of thyroid above Class I. (See Classification at end)				
Name of School	No. of boys	No. of girls	Total no. of children	S Residence	Specimen number and nature of specimen and its origin	No. of boys	No. of girls	Percentage goitre		
								Boys	Girls	Total
1. Mahlangatsha Mission School (Native) near Mankaiana	51	65	116	In vicinity of Mahlangatsha	No: 1. Water at the school 2. Top-soil from a land 3. Sub-soil from same land 4. Maize grown on this land 5. Water from Umzeweni River 6. Maize from land near No.5 7. Sugar-beans from same land 8. Jugo-beans from same land 9. Soil from same land	14 (1-2:5 2:9	24 (1-2:8 2:12 3:4)	28	37	33
2. Government School Goedgegun (European)	102	99	201	Most of the children are in the school hostel and hail from all over Swaziland.	10. Water from town supply 11. Top-soil from a land 12. Sub-soil from same land	4 (1-2:1 2:3)	4 (1-2:1 2:3)	4	4	4
3. Central Native Mission School, Hlatikulu.	42	75	116	In the vicinity of Hlatikulu	15. Specimen of water (mixed from Sibowi River, springs in the neighbouring mountains and Mwene River)	5 (1-2:4 2:1)	20 (1-2:4 2:12 2-3:2 3:2)	12	26.7	21.5

Name of School	No. of boys	No. of girls	Total no.of children	Residence	Specimen number and nature of specimen and its origin	Size of thyroid above Class I (see Classification at end)				
						No. of boys	No. of girls	Percentage goitre		
								Boys	Girls	Total
4. Florence Eurafrican Mission School near Hluti (Coloureds)	63	57	120	Most of the children are in the school hostel and hail from all over Swaziland.	13. Water from Mantambi River (their drinking water)	3 (2:3)	2 (1-2:1 2:1)	4.8	3.4	4
5. Franson Memorial Bible School, Mhlotsheni.	84	121	205	In vicinity of Mhlotsheni. A few hail from Johannesburg, Zululand and Natal.	14. Water from a tap at the school (drawn from a spring in the mountains)	4 (2:3 2-3:1)	18 (1-2:1 2:11 2-3:4 3:2	4.7	15	10
6. Native Central Government School, Bremersdorp.	100	113	213	Nearly all hail from vicinity of Bremersdorp. They drink water from the town supply.	17. Bremersdorp water supply (Chlorinated) (municipal)	8 (1-2:7 2:1	17 (1-2:7 2:8 2-3:2	8	15	11.7
7. Little Flower Mission Schl. Bremersdorp (Native).	158	144	302	ditto	ditto	12 (1-2:7 2:5	27 (1-2:11 2:12 2-3:1 3:3	7.6	18.5	13
8. Matapha Swazi National School, Bremersdorp (Native)	76	47	123	Most of the scholars are from the vicinity of Bremersdorp but a fair number hail from Northern Swaziland and Mankaiana	16. Water from tap at the school. This water is drawn from the Mtilwane River. 18. Top-soil at the school. 19. Sub-soil from same place.	19 (1-2:14 2:5)	26 (1-2:11 2:9 3:4 3-4:2)	25	53	36

Name of School	No. of boys	No. of girls	Total no. of children	Residence	Specimen number and nature of specimen and its origin	Size of thyroid above Class I (See Classification at end)				
						No. of boys	No. of girls	Percentage goitre		
								Boys	Girls	Total
9. Nazarene Native Mission School, Bremersdorp.	152	190	342	In vicinity of Bremersdorp	Water supply is same as specimen No.17 (taken at George Hotel)	18 (1-2:8 2:6 2-3:4)	53 (1-2:13 2:25 2-3:10 3-4:1)	12	26	20
10. Government School, Bremersdorp, (European)	40	44	84	Most of the scholars are from vicinity of Bremersdorp	ditto	0	5 (1-2:3 2:2)	0	11	6
11. Mbuluzi Native girls Mission School (11 miles from Mbabane).	56	163	219	100 of these pupils reside in the school hostel the rest hail from the vicinity.	20. Water from the school supply. The source of the water-supply is a spring in the mountain. 21. Top-soil taken 2 miles from the school (along the road back to Mbabane). 22. Sub-soil from same place. 23. Grass taken at same place.	32 (1-2:15 2:12 2-3:1 3:2 4:1 4-5:1	124 (1-2:38 2:35 2-3:15 3:18 3-4:10 4:7 4-5:1)	57	76	71
12. Central Native Government School, Mbabane.	111	90	201	In vicinity of Mbabane.	24. Water taken from a tap in the Tavern Hotel Mbabane. (N.B.: The inhabitants of Mbabane drink water from many sources (springs and furrows).	45 (1-2:27 (2: 6 2-3: 7 3: 2 3-4: 3)	40 (1-2:26 2:11 2-3: 2 3-4: 1)	40.5	44	42

Total number of European school children examined............285
Percentage of enlarged thyroids..............................4.5

Total number of Native school children examined.......1,957
Percentage of enlarged thyroids .... 26%.

CLASSIFICATION OF THYROID ENLARGEMENTS.

Class 0: Thyroid not felt, or detected only as a thin, even layer of tissue across the trachea.

Class 0 - 1: Isthmus palpable as a distinctly raised convexity. The lateral lobes are not felt; or are detected only as slight masses whose limits cannot be clearly defined.

Class 1: The borders of isthmus and lateral lobes can be distinctly made out; but the enlargement is slight, and the gland is not visible on swallowing except in very thin individuals.

Class 1-2: The outlines of the gland are easily felt, and on inspection the suprasternal hollow shows a small mass in its upper part only, which is seen to move on swallowing.

Class 2: The gland visibly fills nearly the whole of the suprasternal hollow, leaving only a dimple above the sternum; but the outline of the neck is not distinctly convex.

Class 2-3: The neck outline seen from the lateral and atero-lateral views is distinctly convex, but the effect is not disfiguring.

Class 3: The neck outline is markedly convex, and the patient is usually aware of having a "thick neck".

Class 4: The neck is unmistakably distorted by the large mass of a goitre.

(II) Communicable Diseases.

(i) Malaria. The incidence of malaria determined on the basis of cases treated at District Hospitals was 66% less than in 1950, the prevalence of the disease being greatest in the Manzini District.

During the 1950/51 transmission season malaria control work was greatly extended, and 36,550 huts, distributed throughout an area representing three quarters of the accessible malarious areas in Swaziland, were treated with D.D.T Emulsion, M.25, (DDT content 27%). Although it was not possible to re-treat the huts in the hyperendemic areas, as was originally intended, routine test-spraying revealed an almost complete disappearance of A. gambiae from human habitations in those and other treated areas.

The beneficial effect of anti-malaria measures in the northern bushveld areas, which have been treated for two or more consecutive years is demonstrated by the marked reduction in the parasite rates shown in the following table:-

	1945/46	1950/51
Infants (0 - 1 years)	21.4%	1.9%
Children (1-12 years)	60.6%	4.8%
Adolescents (13-18 years)	31.8%	1.6%

In preparation for the 1951/52 transmission season, the spraying of areas containing 42,000 huts was commenced in mid-November following on the early breeding of A. gambiae in certain bushveld areas after heavy rain which fell in October.

As a result of a temporary shortage of D.D.T in the Union, and the increase in the price of this insecticide, it has become necessary to make use of Wettable B.H.C powder (10% gamma content) for control work, while the former preparation is in short supply. This will entail a second spraying, owing to the shorter residual effect of B.H.C., but it is questionable whether the two applications will achieve the same results as those hitherto obtained with a single spraying with D.D.T, as the duration of the effectiveness of the two insecticides is so dissimilar.

The cases of malaria treated by field and laboratory staff given in the following table, show a marked decrease as compared with those of the previous year:-

1951	Field Staff	Laboratory (x)
January	1	-
February	22	1
March	45	1
April	22	-
May	43	2
June	16	-
July	-	-
August	-	-
September	4	-
October	5	-
November	15	-
December	8	-
TOTAL	181	4
1950	798	29

(NOTE: (x) = microscopically diagnosed).

(ii) Smallpox.

Following on the appearance of a suspected case of smallpox in the Msunduza township, in January, 1774 persons were vaccinated. 37,154 persons were vaccinated during the course of a mass vaccination campaign in the Hlatikulu District. Numerous reports of outbreaks of the disease, proved on investigation to be unfounded.

(iii) Bilharziasis.

(Hospital cases: 79 In-patients
525 Out-patients).

604 cases were dealt with at Hospitals, as compared with 642 and 424 during 1950 and 1949 respectively.

The case distribution in 1951 was as follows:-

Manzini-Stegi District	63.9%
Mbabane-Mankaiana-Pigg's Peak District	20.6%
Hlatikulu District	15.3%

Investigational work in this and other fields was restricted, owing to the fact that the Medical Officer (Health) was on leave.

During February, 82 children (40 boys and 42 girls) at the European Government School, Bremersdorp, were examined, by the Malaria Medical Officer for urinary Schistosomiasis, and 17% were found to have acquired the infection from streams in the vicinity of the township.

A further survey of Eurafrican children in the Bremersdorp area, revealed that 10% of those examined were infected, this relatively low figure being attributable to the fact that the majority of the known cases of the disease were receiving treatment at the local hospital.

During the months of July and August, an extensive survey of the snail hosts of Schistosomiasis was carried out in the Bremersdorp district, preparatory to the institution of control measures within a radius of 5 miles of the township during 1953, and the findings are discussed in the attached report by the Malaria Medical Officer. The infectivity rate averaged 17%, and reached as high as 75% in some instances.

The Managements of irrigation schemes have been advised regarding the institution of control measures, on the lines advocated in the Report of the First Session of the Joint OIHP/WHO Study Group on Bilharziasis.

The question of employing Sodium Pentachlorophenate as a molluscicide is under investigation.

(iv) Tuberculosis (Pulmonary).

(Hospital cases: 112 In-patients
192 Out-patients).

304 cases presented themselves for treatment at hospitals during 1951, and the comparative figures for previous years are given below:-

1950	396 cases
1949	281 cases
1948	253 cases
1947	196 cases
1946	300 cases

The distribution of the cases was as follows:-

Manzini-Stegi District	66.4%
Mbabane-Mankaiana and Pigg's Peak District	18.0%
Hlatikulu District	15.4%

The Tuberculin Survey, using 1st strength Tuberculin P.P.D., was resumed during the last quarter of the year, and the results of the tests are recorded below:-

(i) Bremersdorp Central School (African)

Age Group	Number tested M	Number tested F	Positive M	Positive F	Negative M	Negative F
7 - 10	19	42	3	5	16	37
11-15	46	55	10	14	36	41
16 and over	21	8	13	3	8	5
Totals	86	105	26	22	60	83

Percentage positive: 25.1

(ii) St. Michael's Eurafrican School, Bremersdorp.

60 children were tested, and 9 (15.0%) gave positive reactions. 8 of these cases came from the Union, only one being a resident of Swaziland.

(iii) European Government School, Goedgegun.

Of 126 children tested, only 3 (2.3%) gave positive results.

A grant of £2000 has been made to the Mahamba Mission, from the Governor-General's National War Fund, for the construction of a T.B. block at the Arthur Matthews Methodist Hospital, and an award to the Nazarene Mission for a similar purpose is under consideration.

(v) Dysentery.

(Hospital cases: 320 In-Patients
642 Out-Patients).

The incidence of diseases in this group exceeded that of 1950 by 14.2%.

The relative frequency with which the disease was met with in its various forms was as follows, the corresponding figures for 1950 being shown in brackets:-

Amoebic Dysentery	39.9%	(37.0%)
Bacillary Dysentery	42.8%	(70.6%)
Type undifferentiated	17.2%	(3.0%)

(vi) Diarrhoea and Enteritis.

Hospital Cases.	(a) Under 2 years	207	In-patients
		1113	Out-patients
	(b) Over 2 years	64	In-Patients
		773	Out-patients

The incidence of these diseases was 17.2% greater than in the previous year, and the case distribution as between districts, which is similar to that of 1950, was as follows:-

Manzini-Stegi District	47.8%
Mbabane-Pigg's Peak- Mankaiana District	27.9%
Hlatikulu District	24.1%

(vii) Venereal Diseases.

The cases treated during the year are analysed in the following table:-

Disease	Mbabane Hospital	Mankaiana Cottage Hospital	Other Health Centres Mbabane-Pigg's Peak-Mankaiana District (Northern District)	Hlatikulu Hospital	Health Centres Hlatikulu (Southern) District	Raleigh Fitkin Memorial Hospital Bremersdorp	Health Centres Manzini-Stegi (Central) District.	District Surgeon, Stegi.	TOTAL
I. SYPHILIS:									
(A) Early Syphilis (i) Primary	132	7	-	30	-	59		-	228
(ii) Secondary	367	239	-	147	-	307		289	1349
(iii) Early Latent (Asymptomatic)	223	30	-	64	-	-		-	317
(B) Late Syphilis Tertiary (i) Skin, Mucosal bone, muscle, joint	7	-	-	2	-	2		-	11
(ii) Cardiovascular	-	-	-	-	-	-		-	
(iii) Neurosyphilis	-	1	-	-	-	-		-	1
(iv) Late latent (Asymptomatic)	-	-	-	2	-	1		-	3
(C) Congenital (i) Early (under 2 years of age)	124	52	-	24	-	54		-	254
(ii) Late (over 2 years	1	45	-	5	-	5		-	56
(D) Undifferentiated	-	-	542	-	890	-	957	-	2389
Total	854	374	542	274	890	428	957	289	4608
II. GONORRHOEA									
(i) Acute	715	68	81	112	420	268	157	207	1928
(ii) Chronic	-	1	-	5	-	-	-	-	6
Total	715	69	81	117	420	268	157	207	1934.
III. OTHER VENEREAL DISEASES	7	4	1	1	-	-	-	-	
IV. RE-ATTENDANCES.									
Syphilis	6212	1889	1020	1167	4522	3073	3726	700	22309
Gonorrhoea	599	29	30	149	198	34	82	-	1121
Other Venereal Diseases	21	5	-	1	-	-	-	-	27
Total Re-attendances	6832	1923	1050	1317	4720	3107	3808	700	23457

The number of cases of Syphilis and Gonorrhoea which presented themselves for treatment exceeded that of 1950 by 11.2% and 9.7% respectively, but this does not necessarily indicate an increase in the prevalence of venereal diseases.

The fluctuation in the incidence of Venereal Diseases in various parts of the Territory during the last two years is shown below:-

Place	Syphilis		Gonorrhoea	
	Increase	Decrease	Increase	Decrease
Mbabane	7.8%	-	-	6.9%
Mankaiana	32.8%	-	-	13.7%
Mbabane-Pigg's Peak District	14.1%	-	-	-
Hlatikulu (General)	8.7%	-	20.6%	-
Goedgegun	-	8.6%	76.5%	-
Bremersdorp	8.7%	-	8.9%	-
Manzini-Stegi District (General)	-	10.0%	17.1%	-
Stegi (Health Centre)	67.3%	-	33.3%	-

Tests (i.e. Modified Ide and Eagle Flocculation) performed at the Public health Laboratory, Bremersdorp, on blood specimens taken at random from 729 adult natives resident on the property of the Swaziland Irrigation Scheme (C.D.C), and adjoining areas, gave positive reactions in 31.6% cases, a finding which suggests a high incidence of syphilis amongst the population groups concerned. The serological survey is being extended to include the inhabitants of the middle veld and high veld as well as those of the bushveld, and although some time must necessarily elapse before definite comparisons can be drawn between the various areas, there is already evidence to suggest that, as far as the rural population is concerned, the prevalence of syphilis is probably greatest in the Eastern portion of the Territory.

(viii) Typhoid and Paratyphoid Fever.

103 cases (10 deaths) were notified from the Mbabane-Pigg's Peak-Mankaiana (15), Manzini-Stegi (53) and Hlatikulu (35) Districts, as compared with 59 cases (3 deaths) in 1950. Apart from localised outbreaks at Sinceni (February), the Swazi National School, Matapha (May), Ebenezer Mission (December) and Stegi township (December), the case distribution was sporadic throughout the territory, but there has been an increasing tendency for the disease to assume epidemic form during recent years, especially in schools in which the system of sanitation is defective. Mass inoculation of contacts was carried out at Matapha, St. Marks School, Mbabane, and Stegi township.

(ix) Diphtheria.

Seventeen cases, with 4 deaths, were reported, and seven of these of which 3 were fatal occurred on a farm in the Hlambanyati area.

(x) Whooping Cough.

The incidence of Pertussis was less than in the previous year, and the case distribution was as follows:-

District	No.of cases	Deaths
Mbabane-Pigg's Peak-Mankaiana District	96	1
Manzini-Stegi District	63	-
Havelock Mine	39	1
Hlatikulu District	15	-
Total	213	2

(xi) Acute Poliomyelitis.

No cases were detected.

(xii) Measles.

95 cases were reported, the disease being mainly confined to the Mbabane area, as shown below:-

Mbabane-Pigg's Peak-Mankaiana District	58
Havelock Mine	15
Manzini-Stegi District	14
Hlatikulu District	8
	95

(xiii) Chicken Pox.

75 cases were reported, as compared with 85 during 1950, and the majority of the cases occurred in the Mbabane and Hlatikulu Districts. Apart from a localised epidemic in the Goedgegun School hostel during the month of September the case distribution was sporadic in character.

(xiv) Relapsing Fever.

No cases were observed during the year.

(xv) Tick Typhus.

Nine cases were diagnosed of which 7 occurred in the Mbabane area, the remaining two being reported from Manzini District and the Havelock Mine. The infections were mainly acquired during January and February.

(xvi) Influenza.

This disease was far less prevalent than in 1950, and as in previous years its incidence was greatest in the neighbourhood of Mbabane.

The number of cases reported from individual Districts is given below:-

Mbabane-Pigg's Peak-Mankaiana District	556
Hlatikulu District	149
Manzini-Stegi District	129
Havelock Mine	87.

(xvii) Cerebro-spinal Meningitis.

Ten cases, with three deaths, were notified, as against fifteen in 1950, the case distribution being as follows:-

Havelock Mine	4	
Hlatikulu	4	(1 death)
Manzini-Stegi District	2	(2 deaths)

(xviii) Epidemic Parotitis.

86 cases were reported, of which 75 occurred in the Hlatikulu District, 70 being amongst pupils at the European Government School.

The 11 remaining cases were distributed as follows:-

Mbabane	6
Havelock Mine	4
Bremersdorp	1

(xix) Infectious Mononucleosis.

One European case occurred in the Hlatikulu District.

(xx) Leprosy.

The staff of the Mbuluzi Leper Hospital consisted of a Medical Superintendent, an European Matron, a Nurse, Teacher, a Chaplain and Liaison Officer, an Ambulance Driver, and four labourers. All members of the staff are resident at the hospital, with the exception of the Medical Superintendent who visited the institution at fortnightly intervals. The post of Lay Superintendent has been vacant during the period under review.

The number of in-patients on the 31st December was 57, i.e. 25 adult males, 21 adult females, 4 male and 7 female children, as compared with a total of 78 at the end of 1950. This reduction is due to the results achieved through the use of Sulphone drugs over a period of some two years, and the success of this treatment has greatly improved the morale of the remaining patients, and has encouraged others to present themselves for admission. Many of the patients are fit for work, and take a great interest in their gardens, seeds for which are provided by the Agricultural Department. One Leper is employed as a cook, three as assistants in the hospital, and three are engaged on road maintenance, and tree planting. Two men who are proficient in the use of tools, run a small carpentry business, and make furniture for other patients. The younger patients are encouraged to attend school.

Health of Patients.

Apart from advanced cases, who have for long been exposed to the ravages of the disease, the general health of the patients has been satisfactory. Two blind patients are permanent inmates of the hospital, and eight cases were admitted to hospital with Lepra reaction. There has been a general improvement in the nutritional state of patients as a whole.

Additions to Population.

	Males	Females	Total
Admissions	7	6	13
Re-admissions	1	2	3
Deserters	-	-	-
Totals	8	8	16

Losses in Population.

	Males	Females	Total
Deaths	2	2	4
Desertions	1	-	1
Discharges	17	15	32
Totals	20	17	37

Origin of patients admitted.

District	Males	Females	Total	%
Mbabane	3	1	4	25.00
Mankaiana	1	2	3	18.75
Bremersdorp	1	-	1	6.25
Stegi	1	-	1	6.25
Pigg's Peak	2	3	5	31.25
Hlatikulu	-	2	2	12.50
Totals	8	8	16	100.00

Duration of Disease before Admission.

Duration	Admissions	Percentage
0 - 1 years	3	18.75
1 - 2 years	3	18.75
2 - 3 years	3	18.75
3 -4 years	1	6.25
4 - 5 years	3	18.75
Over 5 years	3	18.75

Classification on Admission.

Classification	Admissions	Percentage
Lepromatous	4	25.00
Neural	11	68.75
Mixed	1	6.25

Of the 57 patients in the Colony the following table shows the type of disease according to sex:-

Type	Male	Female	Total	Percentage
Lepromatous	22	14	36	63.1
Neural	4	16	20	35.0
Mixed	1	-	1	1.7

Average age on admission: 36.87 years

Proportion of Children to total Admissions.

3 children under the age of 16 (18.75%) were admitted, as against 5 (22.7%) during 1950.

Treatment (General).

There were 23,734 attendances at the Dispensary, as compared with 16,475 in 1950. The following cases were admitted to Hospital:-

Lepra reaction	8
Influenza	6
Observation	6
Trophic Ulcers	5
Injury by fall	2
Circumcision	1
Gastritis	1
Nephritis	1
Arthritis	1
Peritonitis	1
Blindness	1
Eye injury	1
Burns	1
Mental Derangement	1
	36 (1117 In-patients days).

Anti-Leprotic Treatment.

All cases were treated with Diamino-diphenyl sulphone (D.A.D.P.S) in oral doses of 0.1 to 0.3 gm. daily, Blaud's pills and yeast tablets being administered simultaneously to counteract the development of anaemia. Eight patients were given intradermal injections of Chaulmoogra oil.

The improvement in nodular cases receiving D.A.D.P.S. has been steady and sustained, but in Neural cases, limitation of the spread of macules, and a hastening of the healing of trophic ulcers were the main results achieved. The effect of D.A.D.P.S. on the incidence of lepra reaction was inconclusive, but there was no indication that it prevented its occurrence.

Laboratory Examinations.

135 smears were examined for the presence of Microbacterium leprae, with the following results:-

	Positive		Negative		Total
	Nasal	Skin	Nasal	Skin	
Lepromatous	3	53	5	11	72
Neural	-	3	2	57	62
Mixed	-	1	-	-	1

Leprosy Survey.

Survey work has now been discontinued, but previous investigations have shown that the incidence of the diseases in this Territory is less than 2 per 1000.

Vital Statistics.

The population figures as determined during the 1946 Census are shown below:-

	Males	Females	Total	
Europeans	1727	1474	3201	
Coloured	359	380	739	
Swazis	91014	87617	178,631)	181,269
Foreign Natives	2371	267	2638)	
Asiatics	5	1	6	
Total	95476	89739	185,215	

Total European Population	3201
Total European Births	73
Total European Deaths	18
Birth rate per 1000	22.8
Death rate per 1000	5.6
Infant mortality rate	27.2

Table showing causes of Death:

Causes of Death	Number of Deaths
Diseases of the heart, and other diseases of the Circulatory system	7
Cancer - malignant disease	1
Violence	1
Tuberculosis of Respiratory System	1
Enteritis	1
Other diseases of the Digestive System	1
Premature Birth	1
Senility	1
Other causes	4
Total	18

Registration is not compulsory in the case of the Non-European population.

III. HYGIENE AND SANITATION.

A. (i) Preventative Measures.

(a) Malaria. - The area covered by the large-scale malaria-control project in operation in this territory has been increased, and 36,550 huts were treated with residual insecticide, as against 23,000 in 1950. Imagocidal measures were supplemented by larval-control work in the case of Bremersdorp township and the Swaziland Irrigation Scheme (Colonial Development Corporation). Proguanil has been made available for sale to the public from Government stocks, and is used extensively for prophylactic purposes throughout the Territory.

(b) Smallpox. Mass vaccination was carried out in the Hlatikulu District, and the Mbabane Township.

(c) Typhoid and Paratyphoid Fevers and other Salmonella infections.

All outbreaks were investigated, and the usual prophylactic measures were adopted. Specific immunization was carried out at schools and other localised communities.

Chloromycetin was used, with good effect, in a number of severe cases.

(d) Diphtheria and Whooping Cough. A large number of children were immunized against these diseases.

(e) Schistosomiasis. Preliminary investigations into the distribution of the intermediate hosts of Schistosoma, infectivity rates, and disease incidence are being carried out in preparation for the inauguration of control measures in Bremersdorp and its vicinity during 1952

(ii) General Measures of Sanitation.

(a) The use of residual insecticides against mosquitos has the advantage of destroying various other disease-carrying insects, and is thus additionally beneficial to the health of the community.

(b) Water Supplies. Bacteriological analyses of the treated water supplies at Bremersdorp and Stegi were carried out at quarterly intervals, and the results have demonstrated the need for the installation of automatic chlorination units. The public in the urban areas of Mbabane, Stegi, Bremersdorp and Goedgegun have been warned against the dangers of using unboiled water for domestic purposes.

Although the water supply at Bremersdorp is adequate in amount, the demand has outgrown the capacity of the filtration and storage units. The new water supply at Goedgegun has not yet been completed, and water is being reticulated to consumers in an untreated state.

The Stegi township derives its water supply from sub-surface seepage from a vlei, and the supply is inadequate and subject to contamination by surface washings after heavy rains. Efforts to augment the water supply by sinking boreholes have, so far, been unsuccessful.

(c) Conservancy and Refuse Disposal. The public are being encouraged to instal water-borne sanitation whereever possible, and the Local Authorities in Mbabane and Bremersdorp have made considerable progress in this respect, by the non-approval of plans for bucket and pit latrines. Type plans for septic tanks have been prepared, and made available for issue to the public, as required.

Arrangements have been made for the occupants of plots in the commercial areas of Bremersdorp and Mbabane to purchase rubbish bins of an approved type, at a nominal cost, and a gradual improvement in the system of refuse disposal is being attained in these townships.

(d) Drainage. Defects in the system of disposal of domestic wastes have been rectified in a number of instances.

(e) Bush-clearing. Notices have been served on a number of property owners in urban areas, requiring them to erect fencing and clear their plots of bush and undergrowth. The response has been satisfactory in most cases.

(iii) School Hygiene. School Medical Inspection Cards have been provided, and the systematic inspection of school children is being improved and extended. The routine medical examination of pupils was carried out at St. Marks School, the Trades School, Mbabane, and the Swazi National School, Matapha. There were 1679 attendances at the Matapha School Clinic.

Arrangements have been made for regular examination of boarders at the schools shown in the following list:-

Bremersdorp District.

Little Flower	Medical Officer (Health)
St. Joseph's	Medical Officer (Health)
St. Michael's (Eurafrican)	Medical Officer (Health)
Convent	Medical Officer (Health)
Swazi National School	Medical Officer, Mbabane.

Hlatikulu District.

Our Lady of Sorrows (Hluti)	Medical Officer, Hlatikulu and Medical Officer (Health).
European Government School, Goedgegun.	Medical Officer, Hlatikulu.

Mbabane District.

Mbuluzi Girls School	Medical Officer (Health)
Trades School, Mbabane	Medical Officer, Mbabane
St. Mark's School	Medical Officer, Mbabane.

(iv) Labour Conditions. Notable improvement has been made in the housing, feeding and welfare of African labour employed by the Swaziland Irrigation Scheme (C.D.C), Pigg's Peak Timbers and Usutu Forests (C.D.C). A full-time Medical Officer has been appointed by the Swaziland Irrigation Scheme, and Pigg's Peak Timbers is regularly visited by the Resident Medical Officer of the Havelock Mine.

The Usutu Farm was inspected by Health Office staff on several occasions, and the Management was advised on the subject of African housing and general sanitation. Residual spraying of the huts in the native compound and the European quarters was carried out by this Department.

The Swaziland Irrigation Scheme's property was visited at monthly intervals, in connection with the supervision of malaria and bilharzia control measures, etc.

(v) Buildings, etc. Measures have been introduced for the control of buildings in Urban Areas, and at Bremersdorp and Mbabane arrangements have been made for the proper planning and control of African townships within the Urban Areas. Legislation which would enable effective control to be exercised in the peri-urban areas, is urgently required, as the number of unhygienic dwellings in these localities is rapidly increasing. 40 Building plans were examined at the Health Office and 21 at Medical Headquarters. Four new houses for European Officials were erected at Mbabane (1 "E" Type) and Hlatikulu (3 "D" Type), and seven improved type (N.F.2-50) houses for African staff were constructed at Bremersdorp (3) and Mbabane (4).

A health survey involving the systematic inspection (109 inspections) of residential premises in the Urban Areas of Bremersdorp, Mbabane, Goedgegun and Hlatikulu was commenced and steps are being taken to eliminate the insanitary features thus discovered.

86 Sanitary Notices have been served on persons who have infringed the Urban Area Regulations, and the response has been generally satisfactory, despite the present shortage and the high cost of building materials. 45 Notices have been complied with, and improvements are pending in 41 cases.

30 Buildings in process of construction have been inspected (135 inspections) at various stages, thus ensuring that the owners conform with the specifications as shown on the approved plans.

(vi) Food in relation to Health and Disease.

(a) Trade Premises. The following number of inspections were carried out:-

General Dealers	186
Butchers	132
Slaughter Houses	30
Native Eating Houses	25
Restaurants	15
Hotels	9
Dairies	4

On the advice of this Department numerous improvements were carried out. One General Dealer's shop was closed, and one was demolished and rebuilt. One old restaurant was demolished and replaced by a modern hotel. 35 tins of meat, fish and canned fruit were condemned as unfit for human consumption.

(b) Meat Supplies. Routine meat inspection at Bremersdorp and Mbabane was suspended in March 1951, and has not yet been resumed. The following are the figures for meat inspection carried out by the Health Inspector, and Stock Inspectors prior to the cessation of this service:-

Station	Cattle	Sheep	Pigs	Cattle carcases detained for measles	
				Destroyed	Passed after treatment
Mbabane	120	59	29	2	1
Bremersdorp	172	-	12	9	20
Total	292	59	41	11	21

Incidence of Measles, Mbabane	2.5%
Incidence of Measles, Bremersdorp	16.8%

B. Measures taken to spread the knowledge of Hygiene and Sanitation.

4000 Pamphlets obtained from the Union Health Department and The South African Red Cross Society were distributed to Africans at schools, etc. Health posters were issued to a number of schools.

Lectures were given by the Health Inspector to the following groups on the under-mentioned subjects:-

(i) To Cattle Guards (Veterinary Department).

(a) Meat Inspection
(b) Sanitation
(c) Farm Buildings and Ventilation
(d) Milk and Dairies.

(ii) To Nurses at Nazarene Mission, Bremersdorp.

Public health measures in Native Areas.

(iii) To Teachers' Conference, Bremersdorp.

Hygiene at schools and the position of the Teacher in relation to Public Health in Native Areas.

C, Training of Personnel.

The training of African Nurses and Midwives is carried out at the Ainsworth-Dickson Nursing School, at the Raleigh Fitkin Memorial Hospital, Bremersdorp, which is registered under the High Commission Territories Nursing Council for the issue of Certificates in medical and surgical Nursing and Midwifery. One Nurse passed the final Nursing Examination, and one of two candidates was successful in the Midwifery Examination. The minimum educational qualification for the course is Standard VIII.

As the number of Swazi girls who possess the higher standards of education is as yet comparatively small, the four year course for those with the minimum educational qualification of Standard VI is still continued. During the year two students passed the Preliminary Examination and five passed the Final Examination for the Swaziland Nursing Certificate, set by the Medical Department.

For girls of a lower educational standard (Standard IV and V) a Nurse-Aid course of two years duration is provided. These are given instruction in First Aid, Nursing and Infant Welfare, and are examined by examiners appointed by the British Red Cross Society.

The following number of students were undergoing training at the end of the year:-

4th year Nursing Students	6
3rd year Nursing Students	6
2nd year Nursing Students	2
1st year Nursing Students	4
Nurse-Aids	11
	29

IV. MATERNITY AND CHILD WELFARE.

(a) Mbabane, Pigg's Peak and Mankaiana District.

39 Europeans and 759 Africans attended the weekly ante-natal clinic at Mbabane Hospital, and 318 deliveries were conducted, as against 276 in 1950. 200 infants and 42 mothers received attention at the Child Welfare Clinic at Matapha, and 8 confinements were attended by the School Nurse. 324 ante-natal cases were dealt with at Mankaiana.

The number of maternity cases treated at Health Centres is given in the following table:-

Health Centre	No. of Cases
Mankaiana	95
Horo	16
Government Farm	10
Hebron	33
Total	154

(b) Manzini and Stegi District.

Raleigh Fitkin Memorial Hospital, Bremersdorp.

Ante-natal attendances	2453
Child welfare attendances	2534
Confinements	370

Table showing the number of maternity cases at Nazarene Mission Health Centres.

Health Centre	No. of Cases
Stegi	75
Endingeni	73
Pigg's Peak	55
Mliba	14
Mafuteni	9
Bhekinkosi	7
Balegane	18
Malinda	5
Ebenezer	14
Total	270

(c) Hlatikulu District.

Clinic	Ante-natal first Attendances	Confinements
Hlatikulu Hospital	474	148
Goedgegun	354	-
Mhlotsheni	156	-
Hluti	172	-
Mahamba	98	-
Sipofaneni	175	1
St. Philips	202	1
Our Lady of Sorrows	-	6
Lubuli-Gollel	158	-
	1789	156

The infant mortality rates in the bushveld and highveld areas of the district have been assessed at 50% and 25% respectively.

V. HOSPITALS AND DISPENSARIES (HEALTH CENTRES).

(a) Mbabane Hospital.

Number of beds (European)	10
Number of beds (African)	98
Number of cots (African)	20
	128

The under-mentioned works were completed by the Public Works Department, the cost being borne from funds provided under Colonial Development and Welfare Fund Scheme No. D.1085:-

(a) An African Maternity Block comprising 3 wards, containing 15 beds, a labour room, duty room, pack store, linen store, sluice room, bathroom and W.C.'s (2).

(b) A Children's Isolation Ward, with sluice room, bathroom, pack store and W.C.

(c) Improvement and redecoration of the existing children's ward, and the provision of a sanitary annex containing a dressing room, sluice room, bathroom and W.C.

(d) A Boiler House and steam plant installation.

(e) A block containing an operating theatre, sterilizing room, anaesthetic room, surgeons and sisters changing rooms, and X-ray unit.

(f) An European block containing five two-bedded wards, a labour room, linen store, kitchenette, sluice room, bathrooms (2) and W.C.'s (3).

(g) An African male block, divided into three wards containing 31 beds, in all, complete with duty rooms (2), dressing room, sluice rooms (2), linen store, pack store, ablution facilities, and W.C's (4).

(h) A reconstructed block comprising a Nurses Duty room, nurses dining rooms (2), food stores (2), kitchens (2), sculleries (3), pantries (2), and cold room.

(i) Additional African staff quarters.

A laundry and further staff quarters are in course of construction, and two existing wards are being renovated and improved.

Daily average number of In-patients (European)	1.3
Daily average number of In-patients (Eurafrican)	0.8
Daily average number of In-patients (African)	88.7

The increase in accommodation from 56 to 128 beds has eliminated overcrowding, which was one of the most unsatisfactory features of the hospital in the past.

Staff.

2 Medical Officers
4 European Nursing Sisters
1 Dispenser-storekeeper-radiographer
1 Hospital Assistant
1 African Dispenser
22 African Nurses
1 Dispensary Orderly
2 Out-Patient Attendants
9 Ward Attendants.

	1946	1947	1948	1949	1950	1951
Admissions	2287	2217	2210	2237(76)	1966(88)	2491(92)
Deaths	41	28	51	55(-)	57(1)	49(3)
Confinements	170	303	339	299(18)	276(27)	318(14)
Operations	215	193	297	398(70)	441(116)	389(91)
Out-patients (new cases)	8916	8547	8945	9422(1647)	12893(2712)	14159(2971)
Out-patients (re-attendances)	3913	6953	9173	11472(3022)	14059(3356)	15496(3354)

(Note: European cases, which are included in the totals, are shown in brackets).

It will be observed from the following table that the progressive increase in European out-patient attendances at the Mbabane Hospital, is being maintained and that this aspect of the work is considerably greater than at the other control Hospitals in the Territory.

				Average No. per Month.			
		New Cases		Re-attendances		New Cases	
		Male	Female	Male	Female	Officials	Non-officials
Mbabane	1946	53.2	56.9	33.9	51.3	-	-
	1947	55.3	54.6	54.5	54.3	-	-
	1948	61.1	57.4	68.2	82.1	19.6%	80.3%
	1949	86.1	77.6	67.6	106.6	18.7%	81.3%
	1950	125.5	102.2	136.5	142.5	18.7%	81.2%
	1951	128.3	108.3	138.6	123.5	11.4%	88.5%
Bremersdorp	1951	75.4	71.6	38.6	29.6	3.4%	96.5%
Hlatikulu	1951	15.3	13.3	14.2	10.7	20.4%	79.5%

(b) Hlatikulu Hospital.

Number of beds (European)	8
Number of beds (Eurafrican)	3
Number of beds (African)	30
Number of cots (African)	3

Daily average number of In-patients (European)	2.0
Daily average number of In-patients (Eurafrican)	0.7
Daily average number of In-patients (African)	72.5

Staff.

2	Medical Officers
3	European Nursing Sisters
1	European Hospital Assistant-Dispenser
1	Hospital Assistant
12	African Nurses
1	Dispensary Orderly
5	Ward Attendants

	1946	1947	1948	1949	1950	1951
Admissions	2245	1647	1313	1483(94)	1814(104)	1896(141)
Deaths	46	43	50	56(4)	59(4)	55(0)
Confinements	150	188	198	202(22)	159(8)	148(19)
Operations	112	256	241	242	258(43)	299(34)
Out-patients (new cases)	12145	6955	5169	4414(427)	5676(421)	7009(369)
Out-patients (re-attendances)		2342	2894	3549(493)	2803(392)	1700(330)

Extensions to the African Nurses Quarters were completed, but the scheme for the improvement of the hospital itself was left in abeyance, pending completion of the work at the Mbabane Hospital.

(c) Raleigh Fitkin Memorial Hospital, Bremersdorp.

Number of beds (European)	8
Number of beds (African)	68
Number of beds (Eurafrican)	4

Admissions.

Year	European	Eurafrican	African	Deaths
1946	281	116	2154	42
1947	264	117	1814	60
1948	232	92	2082	82
1949	201	80	1823	83
1950	228	92	2305	110
1951	274	64	2760	95

Daily average number of In-patients (European)	5.8
Daily average number of In-patients (Eurafrican)	1.4
Daily average number of In-patients (African)	91.5

Out-Patients.

Year	New Cases	Re-attendances	Totals
1946	5540	5500	11040
1947	5283	4680	9963
1948	9253	8314	17567
1949	9404	8620	18024
1950	10853	9853	20706
1951	11688	9700	21388

Staff.

1 Medical Superintendent.
2 Medical Officers
1 Intern
1 Bookkeeper
1 Secretary
6 Nursing Sisters
1 Housekeeper
1 Radiographer (Part-time)
1 Laboratory Assistant
6 African Nurses
18 Probationer Nurses
11 Nurse Aids
8 Maids

1 Dispensary Assistant

(d) Havelock Mine Hospital, Emlembe.

Data relating to members of the General Native Population treated at the Mine Hospital are given below:-

	1946	1947	1948	1949	1950	1951
Admissions	141	113	81	89	175	68
Out-patients (new cases)	333	47	79	79	88	559
Re-attendances	2285	128	147	395	124	535
Daily average no. of In-patients	3.3	3.4	2.7	4.18	5.0	1.35

30 bedded hospitals are in course of construction at the Good Shepherd Mission, Stegi, and the Methodist Mission, Mahamba.

(e) Dispensaries (Health Centres).

A record of the cases treated at the under-mentioned Dispensaries is given below:-

Government Health Centres.

Dispensary	In-patients	Out-patients			
		New Cases		Re-attendances	
		E	N.E.	E	N.E.
Horo	-	10	2878	1	674
Hebron	-	1	808	-	494
Government Farm	-	5	1545	-	661
Goedgegun	-	548	2904	256	2074
Mhlotsheni	-	28	1891	4	2541
Hluti	-	138	1524	49	1298
Mahamba	-	-	2432	-	4558
Sipofaneni	-	1	1998	-	2276
St. Philips	-	-	2614	-	2129
Our Lady of Sorrows	-	15	1846	6	329
Lubuli-Gollel	-	-	1028	-	437
	-	746	21468	316	17471
Mankaina Cottage Hospital *	829	61	6287	83	3400

("E" = Europeans, "N.E." = Non-Europeans, "*" = figures additional to those shown in the Return of Diseases for Government Hospitals (Appendix I).

Plans have been prepared and a site has been selected for a new Health Centre, which is to be erected during 1952 at Mayiwane in the Native Land Settlement area at Lesters, near Herefords. The activities of this Centre will be supervised by the Medical Officer (Health).

The attendances at Health Centres during the past six years are shown in the following tables:-

Year	New Out-patients	Re-attendances	Total attendances	Confinements
1946	15201	4228	19429	68
1947	14109	8151	22260	47
1948	15347	14235	29582	34
1949	16893	12110	29003	38
1950	19285	13864	33199	34
1951	22214	17787	40001	67

(ii) Mankaiana Cottage Hospital.

Year	Admissions	Out-Patients					
		New Cases		Re-attendances		Total attendances	
		E	N.E.	E	N.E.		Confinements
1946	957	25	7244	10	3135	10414	122
1947	724	36	5693	19	3999	9747	100
1948	762	43	6727	47	2853	9670	94
1949	736	38	7289	59	3030	10416	114
1950	797	29	7147	54	3966	11196	110
1951	829	61	6287	83	3400	9831	95

The average number of in-patients per day at this hospital was 27.7 in 1951, as compared with 24.7 during 1950. The highest figure previously attained was 25.8 during 1947.

(iii) Cases treated at Nazarene Mission Health Centres.

Health Centre		In patients	Out-patients			
			New Cases		Re-attendances	
			E	N.E.	E	N.E.
Stegi	x		322	5247	175	4619
Endingeni	x		-	1717	-	2842
Pigg's Peak	x		135	3886	78	2487
Mliba	x		-	846	-	1206
Mafuteni			-	514	-	1225
Bhekinkosi			-	329	-	620
Balegane			-	544	-	521
Malinda			-	442	-	461
Ebenezer (Pilgrim Holiness Church)			7	1555	-	542
Totals			464	15080	253	14523

"x" = Subsidized by Government.

The total attendances at Mission Health Centres was 30320, as against 27756 in 1950.

(iv) 4084 Out-Patients and 4923 attendances were dealt with by the District Surgeon, Stegi.

VI. PRISONS.

The prisons at Bremersdorp, Hlatikulu and Mbabane were inspected at weekly intervals by the District Medical Officers. The health of prisoners has been generally good, and no epidemics, deficiency or institutional diseases occurred.

VII. SCIENTIFIC.

The laboratory examinations carried out at the main medical centres in the territory are summarised in the following Table:-

	Public Health Laboratory Bremersdorp	Mbabane Hospital	Hlatikulu Hospital	Raleigh Fitkin Memorial Hospital
Blood films	2941	332	203	1051
Total Blood Counts	93	-	233	
Throat swab cultures (C. Diphtheriae)	72	-	-	-
Bacteriological Smears)	-	2371	169	106
Faeces)	242	509	384	80
Urines)		2224	619	3330
Sputa)		431	215	193
Serological tests for Syphilis	8473	-	-	-
Identification of adult mosquitos	125	-	-	-
Identification of mosquito larvae	510	-	-	-
Identification of snails	1100	-	-	-
Biochemical tests	40	-	-	-
Blood and stool cultures	172	-	-	-
Agglutination tests	309	-	-	-
Cerebrospinal fluids	-	-	-	-
Sedimentation rates	-	-	132	-
Unspecified	-	-	111	-
Totals 1951	14077	5867	2066	4760
Totals 1950	14770	4279	1746	5981
Totals 1949	13688	3619	1220	4919
Totals 1948	15641	2865	1813	4912
Totals 1947	16428	2013	1427	3903

The Meinicke flocculation test and the estimation of Prothrombin Time have been added to the list of procedures carried out at the Public Health Laboratory.

VIII. (a) MEDICO-LEGAL WORK, ETC.

	Mbabane Pigg's Peak & Mankaiana District	Hlatikulu District	Manzini & Stegi District	Total
Post-Mortem Examinations	25	13	35	73
Examinations for Assault etc	63	198	183	444
Examinations for Tax Exemption	27	127	40	194
	115	338	258	711

(b) Radiological Examinations.

	Mbabane		Hlatikulu		Raleigh Fitkin Memorial Hospital		Total
	E	A	E	A	E	A	
Screenings	-	10	14	83	2	4	113
Radiographs	175	408	30	138	93	311	1155
Total	175	418	44	221	95	315	1268

In conclusion, I wish to record my appreciation of the loyal and efficient manner in which the staff of the Department performed their duties, during the year under review

J.C.J. CALLANAN

DIRECTOR OF MEDICAL SERVICES.

ANNUAL REPORT 1951.

PUBLIC HEALTH LABORATORY, BREMERSDORP.

A. STAFF.

During 1951 no change occurred in the European staff, and the African staff numbers remained as in the previous year.

During March, the Malaria Medical Officer attended a Bilharzia conference in Pretoria. The conference was convened by the South African Council for Scientific and Industrial Research, the main speaker being Dr. Barlow, authority on Bilharzia and the control thereof. Many problems in connection with the eradication of the disease were discussed in great detail. The experience gained at this conference will be of great value to this department, especially in view of the intended Bilharzia control work in this territory.

During July, Miss Bredell, Laboratory Assistant, again attended a refresher course at the Central Pathological Laboratories, Wentworth, in order to enable her to become acquainted with recent methods and techniques as used in bacteriological and serological examinations. These short study-leaves to central laboratories in the Union have proved of considerable value to this department, and it is hoped that they will be continued in future years.

B. MALARIA.

Climatic Conditions: The average rainfall for the years 1950 and 1951 is shown in the following table:-

TABLE I: AVERAGE MONTHLY RAINFALL 1950 AND 1951.

	1950	1951
January	3.3	3.4
February	4.5	2.9
March	0.9	3.4
April	1.3	5.0
May	0.4	1.5
June	0.3	0.3
July	0.3	0.2
August	1.4	5.0
September	0.0	0.7
October	1.4	5.0
November	2.3	1.4
December	9.8	2.4
	25.9	31.2

As may be seen, except for wide-spread and heavy rains during December 1950, the rainfall during the transmission season was rather low. Accordingly, climatic conditions for abundant breeding of A. gambiae (the main vector) were not very favourable. Breeding of malaria vectors in some areas, however, was quite considerable, especially on the property of the Swaziland Irrigation Scheme in the northern bushveld. Here, owing to the extensive paddy-fields and the seepages caused therefrom, ideal conditions for the breeding of A. gambiae existed. Additional control measures on this property have been advised to the management, namely the regular spraying of all native houses (approximately 1000) with a residual insecticide at two-monthly intervals during the transmission season, and also anti-larval work with a D.D.T emulsion (27½% D.D.T) in a dilution of 1/150 to be carried out during the coming transmission season.

Malaria Control. In continuation of last year's D.D.T spraying of native houses, the malaria control work has been greatly extended during the transmission season 1951. A grand total of 36,550 huts was treated with D.D.T emulsion (M25=27½% D.D.T content); this represents approximately three quarters of all accessible malarious areas in Swaziland. All huts received

a single application only, at the commencement of the transmission season. The original intention to re-spray huts at least in some of the hyperendemic areas, in March, could not be carried out as additional funds were not available. In spite of the re-spray not being possible, however, malaria vectors in the sprayed areas disappeared almost completely from human habitations, and regular test spraying carried out in the same manner as in previous years revealed only an insignificant number of A. gambiae in the many thousands of huts tested throughout the season.

Future Control Work. In preparation for malaria control during the coming transmission season 1951/52, hut-counting was carried out in areas to be sprayed. These areas comprise practically all accessible areas in the territory. A total of 42,000 huts was counted.

Owing to the temporary shortage of D.D.T in the Union, and also to the price increase, it has been decided to utilize the far cheaper B.H.C insecticide for our future control work. A wettable powder of B.H.C. (containing 10% gamma) will be used. As the B.H.C. has a shorter residual effect than D.D.T all our bushveld areas will be sprayed twice during the season. This can be facilitated as additional funds have been made available for malaria control, also as the insecticide is less costly than the D.D.T.

As heavy rains fell during October 1951, and consequently breeding of A. gambiae was reported in certain of our bushveld areas, spraying operations with the above insecticide were commenced earlier than in previous years, namely in mid-November.

Concerning the township of Bremersdorp, a rigid control will continue to be applied. Houses will be sprayed, and all rivers and standing waters treated with D.D.T emulsion. Control will also be exercised in the towns of Stegi and Mankaiana, where European houses, gaols and hospitals will be sprayed.

Malaria Incidence. In consequence of the almost complete eradication of malaria vectors from native huts, the malaria incidence amongst the rural population showed a remarkable decrease. This was especially noticeable in those bushveld areas where control had been in operation over two or more seasons.

The following table represents the results of blood examinations on 2,500 children from all controlled areas; the specimens were taken at regular intervals throughout the malaria season. A striking comparison is recorded between the incidence in areas sprayed for the first year only, and that in areas controlled for two or more years.

TABLE II: MALARIA INCIDENCE - TRANSMISSION SEASON 1950/51.

	Areas controlled 1950/51 only.	Areas controlled two or more years including 1950/51.
Infants (0-1 years)...........	31%	2.9%
Children (1-12 years).........	46%	5.4%
Adolescents (13-18 years).....	31%	1.9%

As illustrated in the table, there is a remarkable reduction in parasite-positive cases where control has been in operation over two or more seasons. It must however be remembered that not every case exhibiting a few trophozoites or gametocytes in the peripheral blood is suffering from a clinical attack of malaria. A percentage of the parasite positive cases have acquired their infection in a previous transmission season. This would be the probable explanation of the comparatively high parasite-incidence in children from an area controlled for the first time.

In this connection, it may be interesting to ventilate again the old problem of how long a period lapses before the system of an untreated native child, having been infected with malaria, is completely freed of parasites (that is, assuming that it is exposed to no further infection). According to our experience over the past two or three years, we are of the opinion that indigenous native children in controlled areas carry parasites in their peripheral blood for a period of eighteen to twenty-four months. This seems to be the case in both P.falciparum and P.vivax.

As pointed out earlier, the fact that native children are carrying over their "parasite-load" from one season to the next, is the explanation for the fact that in the first year of control the "parasite-rate" amongst children is still considerably high, and does not necessarily infer that the control measures adopted were ineffective.

To illustrate further the effect of our anti-malarial control work, comparison is given in the following table between malaria incidence (as judged by the presence of parasites in the peripheral blood) amongst children and adolescents in the northern bushveld areas before control measures were instituted (1945/46), and that of 1950/51.

TABLE III: MALARIA INCIDENCE 1945/46 AND 1950/51.

	1945/46	1950/51
Infants (0-1 years)...........	21.4%	1.9%
Children (1-12 years).........	60.6%	4.8%
Adolescents (13-18 years).....	31.8%	1.6%

The figures in the column 1950/51 in the above table are exclusively from those northern bushveld areas which had been under control over two or more years. The figures show a remarkable reduction in malaria incidence over those of the pre-control year 1945/46. We feel this reduction must be attributed to the success of our control measures.

The absolute figures of parasite-positive cases observed in the laboratory over the years 1946 to 1951 are set out in the following table:-

TABLE IV: MALARIA CASE INCIDENCE (Hospitals, Health Centres, Field).

	1946	1947	1948	1949	1950	1951
January	250	160	515	180	86	35
February	210	250	559	216	90	71
March	1280	450	652	424	276	87
April	2500	445	446	352	213	50
May	1350	310	392	505	308	68
June	440	260	194	260	142	29
July	200	130	65	35	39	16
August	130	70	61	85	48	19
September	100	40	60	113	7	20
October	150	60	84	98	16	10
November	140	30	105	73	32	21
December	100	160	77	103	38	20 *
	6850	2365	3210	2444	1295	446

* This figure represents those cases from the field only, the hospital and health centre figures not being available.

C. BILHARZIA.

During the months July and August, an extensive survey was carried out on snails in the Bremersdorp district. This was done in preparation for the intended Bilharzia control work which is due to commence in 1952. For this pilot scheme, a relatively small area of radius approximately ten miles around Bremersdorp was chosen. The survey revealed heavy infestation of Bilharzia vector snails in almost all streams, furrows and dams in this area. It is noteworthy that the vectors consisted mainly of Physopsis africana, a few Planorbis pheifferi and no Bullinus forskalii. The infectivity rate of P. africana during these months was extraordinarily high and gave an overall figure of 17%. No infected Planorbis snails were found. The observed high infectivity-rate amongst the P.africana is probably the explanation for the high incidence of urinary Bilharzia amongst the children in this district.

A clinical survey into Bilharzia incidence was carried out by this laboratory amongst the European children (82) of the Bremersdorp Government School. 17% of these children were found to be infected with S. haematobium.

Extensive additional clinical surveys amongst native children have been started by the Medical Officer (Health), and will be continued.

Further, a survey into the incidence of S. mansoni infections will also be initiated, which will be an important investigation not only in that the carrier of this disease is prevalent in Swaziland, but also in the fact that in neighbouring districts of the Transvaal the incidence of S. mansoni infections is alarmingly high (verbal communication of Dr. Pitchford, Union Health Department).

D. LABORATORY.

During the year 1951, the routine laboratory work again showed a considerable increase over the previous year; this applied particularly to the first quarter of the year, where specimens forwarded to us from hospitals and health centres almost doubled the numbers of 1950. From April onwards the specimens decreased, but were still notably higher in number than those sent in over the corresponding period last year.

The number of specimens dealt with during the year totalled 9,401; the increase over 1950 totalled over 2000 specimens, which is 23%. These figures do not include blood examinations in connection with malaria.

The following table reveals detailed statistics of the laboratory examinations carried out during the year:-

TABLE V: ROUTINE LABORATORY EXAMINATIONS - 1951.

As compared with those of previous year 1950.

	1950	1951
Syphilis (Modified Ide, Eagle and Meinicke tests)	6433	8473
Agglutination Tests (Widal, Weil Felix, Brucellosis)	227	309
Diphtheria (Throat swab cultures)	86	72
Blood, stool and urine cultures	31	172
Full blood counts	127	93
Biochemical tests	43	40
Bacteriological smears, stools and urines	193	242
	7140	9401

The following table represents the proportion in which specimens were received from the various hospitals and health centres:-

TABLE VI: HOSPITAL SPECIMENS - 1951.

Health Centres	2908	= 31.0%
Bremersdorp	2550	= 27.1%
Mbabane	1619	= 17.2%
Hlatikulu	1086	= 11.5%
Survey	905	= 9.7%
Mankaiana	333	= 3.5%
	9401	= 100.0%

The following table represents the total laboratory examinations carried out in connection with malaria and bilharzia:-

TABLE VII: MALARIA/BILHARZIA LABORATORY EXAMINATIONS - 1951.

As compared with those of previous year 1950.

	1950	1951
Blood-slide examinations:		
(a) received from hospitals and health centres	1151	437
(b) received from field staff	4375	2504
Entomological Examinations:		
(a) identification of adult mosquitoes	864	125
(b) identification of mosquito larvae	450	510
(c) identification of snails	790	1100
	7630	4676

Syphilis. For the serodiagnosis of syphilis, we have in the past followed a procedure as recommended by the South African Institute for Medical Research of utilizing the "Modified Ide" and "Eagle" Screen Tests. During 1951, however, our technique has been furthered by the use of the additional "Meinicke" Test in cases where there is disagreement between the "Ide" and "Eagle" tests or where a doubtful reading is recorded. We feel the third test to be of value as an additional check against our results.

Specimens totalling 8473 were submitted for examination. Of this total, 25.1% gave a positive and 7% a doubtful reaction, positives and doubtfuls thus totalling 32.1%.

During the year an investigation was commenced into the incidence of sero-positive cases amongst the rural population. Various bushveld, middleveld and highveld areas of Swaziland were chosen for this investigation. Bloods were taken at random from natives who did not show any symptoms suggestive of a venereal disease. Although these investigations are by no means completed, it can be said that certain differences have been observed between natives living in bushveld areas, who revealed a markedly high incidence, and those living in middle and highveld areas. It is intended to follow up these investigations, when it is hoped that some light will be thrown upon the question of the incidence of syphilis amongst the rural Swazi.

Enteric Group of Fevers. Owing to several outbreaks of enteric fever in the territory during the year, there was a noticeable increase in the numbers of agglutination tests and bacteriological cultures carried out in the laboratory.

In conclusion, it is to be noted that the yet further extension of the routine work has made it necessary that the Malaria Medical Officer devote almost his entire time to the laboratory, the work being now beyond the scope of the Laboratory Assistant alone. With regard to malaria control, supervision of field organisation was carried out by the Health Inspector, Mr. van Eeden, whose aid in this direction has been most valuable.

Finally, I wish to express my appreciation of the loyal work Miss Bredell, Laboratory Assistant, has done throughout the year, and especially of the many improvements in the routine work of the laboratory.

GOVERNMENT HOSPITALS

RETURN OF DISEASES AND DEATHS (IN-PATIENTS), FOR THE YEAR 1951.

Disease	Cases remaining in hospital from previous year.		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
I. EPIDEMIC, ENDEMIC & INFECTIOUS DISEASES:												
1. Enteric Group: (a) Typhoid Fever		4	2	57		6	2	57		4	1	4
2. Typhus			1				1				10	
4. Undulant Fever											1	
5. Malaria												
(a) Tertian			1				1					1
(c) Aestivo-autumnal				25		2		25			1	24
(d) Clinical		1		37				38			9	66
(f) Blackwater												1
7. Measles		1		18				19			65	41
9. Whooping Cough				19				18		1	20	103
10. Diphtheria		1		6		2		7				11
11. Influenza			14	89		1	14	89			124	643
13. Mumps				1				1			3	10
16. Dysentery												
(a) Amoebic		2	5	120		4	5	115		7	9	57
(b) Bacillary	1	2		88		1	1	90			24	258
(c) Undefined or due to other causes				13		2		13				100
19. Spirochaetosis ictero-haemorrhagica												1
20. Leprosy				2				2				6
21. Erysipelas				1				1			1	1
24. Epidemic Cerebro-spinal Fever				4		1		4				
25. Other Epidemic Diseases												1
(a) Rubeola (German measles)											1	1
(b) Varicella (Chicken pox)				3				3			13	27
29. Tetanus				1		1		1				
31. Tuberculosis, Pulmonary & Laryngeal		5		46		7		47		4		56
Total carried forward	1	16	23	530	-	27	24	530	-	16	292	1412

E = Europeans
A = Africans

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total cases treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
Total brought forward	1	16	23	530	-	27	24	530	-	16	292	1412
32. Tuberculosis of the Meninges or Central Nervous System		1		3		2		4				
33. Tuberculosis of the Intestines or Peritoneum				1				1				
34. Tuberculosis of the Vetebral Column				2				1		1		1
35. Tuberculosis of Bones and Joints				7		1		7				1
36. Tuberculosis of other organs:												
(a) Skin or Subcutaneous tissue (Lupus)	-	1						1				
(b) Bones		1						1				5
(c) Lymphatic System		2		5				7				15
38. Syphilis:												
(a) Primary				35				34		1	6	162
(b) Secondary		8		199				199		8	2	525
(c) Tertiary				16				15		1		24
(d) Hereditary		3		28		1		31				154
(e) Period not indicated				11				11				132
39. Soft Chancre												5
0.(a) Gonorrhoea and its complications		1	2	187			2	188			31	891
(b) Gonorrhoeal Ophthalmia				11				11				10
(d) Granuloma Venereum				2				2			1	8
1. Septicaemia				2		2		2				
I. GENERAL DISEASES NOT ENTIONED ABOVE:												
3. Cancer or other malignant umours of the Buccal Cavity				1				1				
4. Cancer or other malignnt Tumours of the Stomach r Liver			1	3	1	1	1	3				
6. Cancer or other malignnt Tumours of Female Genitl Organs		1		3				4				1
7. Cancer or other malignnt Tumours of the Breast		1		1				2				1
otal carried forward	1	35	26	1047	1	34	27	1055		27	322	3347

Disease	Cases remaining in Hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
otal brought forward	1	35	26	1047	1	34	27	1055		27	322	3347
8. Cancer or other malig- ant Tumours of the Skin				2		1		2				
9. Cancer or other malig- ant Tumours of Organs not pecified				4				4			1	1
0. Tumours,non-malignant				35				34		1	15	69
1. Acute Rheumatism			1	16			1	14		2	22	182
2. Chronic Rheumatism				19				18		1	8	229
3. Scurvy (including arlow's Disease)												4
4. Pellagra				9		2		9				20
5. Beri-Beri				5				5				21
6. Rickets				3				2		1		
7. Diabetes (not including nsipidus)			2	1			2	1				
58. Anaemia:												
(a) Pernicious				4				4			1	
(b) Other Anaemias and Chlorosis			1	5			1	5			40	104
59. Diseases of Pituitary Body												5
60. Diseases of Thyroid Gland											9	12
(a) Exophthalmic Goitre				1				1				
(b) Other diseases of the Thyroid Gland												39
Myxoedema				2				2			2	
61. Diseases of Para-Thyroid Gland				1				1				
64. Diseases of the Spleen				1				1				
65.(a) Leukaemia			1	1			1	1				
66. Alcoholism			1				1				12	
67. Chronic poisoning by ineral substances (lead, ercury etc)				1				1				
III. AFFECTIONS OF NERVOUS SYSTEM AND ORGANS OF SENSES;												
Total carried forward	1	35	32	1157	1	37	33	1160	-	32	432	4033

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
otal brought forward	1	35	32	1157	1	37	33	1160	-	32	432	4033
70. Encephalitis (not in-luding Encephalitis ethargica)				4		2		4			2	1
71. Meningitis (not including Tuberculous Meningitis r Cerebro-spinal Meningitis)				3		1		3				1
73. Other affections of the spinal cord				2				2				
74. Apoplexy:												
(a) Haemorrhage											1	
75. Paralysis:												2
(a) Hemiplegia				4				4				
(b) Other Paralyses				4				3		1		1
76. General Paralysis of the Insane												1
77. Other forms of Mental Alientation		1		4		1		5				10
78. Epilepsy				11				11			2	25
80. Infantile Convulsions				2		1		2				
81. Chorea				2				2			1	
82. (a) Hysteria				3				3			27	6
(b) Neuritis			3	17			3	16		1	103	215
(c) Neurasthenia				3				3			21	73
84. Other Affections of the Nervous System such as Paralysis Agitans				2				2			5	
85. Affections of the Organs of Vision												1
(a) Conjunctivitis		1		59				58		2	63	545
(b) Trachoma				3				1		2		7
(c) Tumours of the Eye				1				1			7	7
(d) Other affections of the Eye		1		49				50			57	104
86. Affections of Ear or Mastoid Sinus			3	56			3	56			119	352
IV. AFFECTIONS OF THE CIRCULATORY SYSTEM:												
88. Acute Endocarditis or Myocarditis				3				3			2	2
Total carried forward	1	38	38	1389	1	42	39	1389	-	38	842	5386

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-patients	
	E	A	E	A	E	A	E	A	E	A	E	A
otal brought forward	1	38	38	1389	1	42	39	1389	-	38	842	5386
9. Angina Pectoris											14	
0. Other Diseases of Heart			1				1				10	14
(a) Valvular												
Mitral				13		3		13			1	1
(b) Myocarditis			3	10	1	3	3	10			3	13
1. Diseases of Arteries:												
(a) Aneurism			1	3	1	2	1	3			1	1
(b) Arterio-Sclerosis				3				3			5	
2. Embolism or Thrombosis (non-cerebral)				1				1				
3. Diseases of the Veins												
Haemorrhoids				2				2			12	6
Varicose Veins			1				1				9	5
Phlebitis			1	6			1	6			4	1
4. Diseases of the Lymph-tic System:												
Lymphangitis			3	23			3	23			12	18
Lymphadenitis, Bubo (non specific)				22				20		2	11	32
5. Haemorrhage of undetermined cause				1				1			2	
6. Other affections of the irculatory System				1				1				
7. Diseases of Nasal passages												
denoids				1				1			5	3
Polypus			1	4			1	4				9
Rhinitis				9				9			10	6
Coryza				3				3			86	553
3. Affections of the Larynx												
Laryngitis			1	3			1	3			7	25
Bronchitis												
(a) Acute		1	5	145			5	144		2	153	1263
(b) Chronic		1	1	35			1	35		1	10	164
0. Brocho-pneumonia		2	8	103		4	8	104		1	5	102
AFFECTIONS OF THE RESPIRATORY SYSTEM:												
1. Pneumonia												
(a) Lobar			3	78		4	3	77		1	4	47
(b) Unclassified				8		1		7		1		6
2. Pleurisy, Empyema			2	11		1	2	11			4	29
tal carried forward	1	42	69	1874	3	60	70	1870		46	1210	7684

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
tal brought forward	1	42	69	1874	3	60	70	1870	-	46	1210	7684
3.Congestion of Lungs				1		1		1				
5.Asthma			1	18		2	1	18			26	74
6.Pulmonary Emphysema				1				1			1	
7.Other affections of e lungs				5				5				21
.DISEASES OF THE DIGEST E SYSTEM:												
8.( )Diseases of teeth Gums				1				1				7
Caries			5	19			5	19			141	628
yorrhoea											25	348
b)Other affections of e mouth				1				1				38
Stomatitis				12				12			22	109
Glossitis, etc				2				2			4	2
9.Affections of Pharynx nsils		1						1				
Tonsillitis			15	59			15	59			112	115
Pharyngitis											71	111
0.Affections of the sophagus											2	1
1.(a)Ulcer of Stomach											8	2
(b)Ulcer of Duodenum											3	
2.Other affections of the omach.											1	
Gastritis	1		3	11		1	2	11	2		57	260
Dyspepsia				6				6			17	401
3.Diarrhoea & Enteritis Under 2 years			3	97		2	3	94		3	31	578
4.Diarrhoea & Enteritis Two years and over			2	29		1	2	28		1	96	478
Colitis			1				1					1
6.Diseases due to Intestinal Parasites												
(a Cestoda (Taenia)				22				22			7	353
(c Nematoda (other than ylostoma)												
Ascaris				6				5		1	7	170
Oxyuris											4	9
7.Appendicitis			9	17		1	9	17			9	18
tal carried forward	2	43	108	2181	3	68	108	2173	2	51	1856	11408

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
otal brought forward	2	43	108	2181	3	68	108	2173	2	51	1856	11408
18.Hernia			1	7			1	7			6	9
19.(a)Affections of the nus											3	3
Fistula etc				5				5				
(b) Other affections of the Intestines											1	5
Enteroptis			1				1				27	2
Constipation			1	10			1	10			1	310
20.Acute Yellow Atrophy of he Liver				1		1		1				
22.Cirrhosis of the Liver												
(a) Alcoholic				1				1				
(b) Other forms				4		3		4				
23.Biliary Calculus												
24.Other affections of the iver											1	1
Abscess				3				3				
Hepatitis			1	14		3	1	13		1	9	3
Cholecystitis		1	2	3			2	4			6	7
Jaundice				1				1			3	7
25.Diseases of the Pancreas											1	
27.Other affections of the igestive System				1				1				
II.DISEASES OF GENITO-RINARY SYSTEM (non-VENEREAL)												
28.Acute Nephritis				3				2		1		7
29.Chronic Nephritis				3				3			1	
30.(b)Schistosomiasis		3		44				45		2		174
31.Other affections of the idneys												1
Pyelitis			2	10			2	10			11	32
32.Urinary Calculus			1				1				2	
33.Diseases of the Bladder												7
Cystitis			3	21			3	21			31	555
34.Diseases of the Urethra												
(a) Stricture				1				1			4	5
(b) Other				1				1			2	8
otal carried forward	2	47	120	2314	3	75	120	2306	2	55	2065	12544

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
tal brought forward	2	47	120	2314	3	75	120	2306	2	55	2065	12544
5. Diseases of Prostate												
Prostatitis			1	1			1	1			1	1
6.Diseases (non-Venereal) the Genital Organs of n											3	3
Epididymitis			1				1				1	
Orchitis			1	4			1	4			1	10
Hydrocele				11				11				29
Ulcer of Penis			2	12		1	2	11		1	9	19
7.Cysts or other non-lignant Tumours of Ovaries				1				1			1	2
8.Salpingitis		1	1	41			1	42			1	58
Abscess of Pelvis				1				1				
9.Uterine Tumours (non-lignant)		1		6				7			9	2
0.Uterine Haemorrhage on-puerperal)			3	10			3	10				
1.Metritis			2	5			2	5				85
(b) Other affections of male Genital Organs				2				2			24	6
Displacement of Uterus		1		18				19				61
Amenorrhoea				6				6			9	80
Dysmenorrhoea				6				6			13	200
Leucorrhoea				2				2			7	2
2.Diseases of Breast (non-erperal)											4	
Mastitis				6				6				27
Abscess of Breast				20				20				16
II. PUERPERAL STATE:												
43(A)Normal Labour	1	16	33	433		2	33	436	1	13		
(B)Accidents of Pregnancy		1	2	2			2	3				2
(a)Abortion			3	34			3	33		1	5	45
(b)Ectopic Gestation				1				1				
(c)Other accidents of Pregnancy			1	11			1	11				3
45.Other Accidents of arturition			3	16		1	3	16				2
46.Puerperal Septicaemia				1				1				
48.Puerperal Eclampsia			1				1					
otal carried forward	3	67	174	2964	3	79	174	2961	3	70	2053	13197

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
otal brought forward	3	67	174	2964	3	79	174	2961	3	70	2053	13197
49. Sequelae of Labour			5	12			5	12			6	1
50. Puerperal affections f the Breast				4				4				
X. AFFECTIONS OF THE SKIN ND CELLULAR TISSUES:												
51. Gangrene				4		1		4				
52. Boil				2				2			28	63
Carbuncle		1		6				7			12	3
53. Abscess			1	104		1	1	100		4	22	134
Whitlow		1		4				5			12	11
Cellulitis			5	97			5	96		1	33	171
54. (a) Tinea				2				2			12	47
(b) Scabies				64				64			3	420
55. Other Diseases of Skin			1	36			1	35		1	111	601
Erythema				1				1			2	
Urticaria				6				6			30	41
Eczema			1	37			1	37			18	93
Herpes				4				4			4	21
Elephantiasis				4				3		1		3
Chigoes				1				1				
. DISEASES OF BONES & ORGANS F LOCOMOTION (OTHER THAN UBERCULOUS):												
56. Diseases of Bones												2
Osteitis		2		23				24		1	1	14
57. Diseases of Joints												
Arthritis		1		22		1		23			25	61
Synovitis				20				20			7	53
58. Other Diseases of Bones or rgans of Locomotion		1	1	13			1	12		2	16	2
I. MALFORMATIONS:												
59. Malformations		1		7				8				
Spina Bifida				1				1				
II. DISEASES OF INFANCY:												
60. Congenital Debility				3				3				4
otal carried forward	3	74	188	3441	3	82	188	3435	3	80	2395	14942

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
otal brought forward	3	74	188	3441	3	82	188	3435	3	80	2395	14942
61.Premature Birth				2		1		2				
62.Other affections of nfancy				11				11			1	18
63.Infant neglect (infants f three months or over)			1	42		4	1	39		3	3	58
III. AFFECTIONS OF OLD AGE:												
64.Senility				4				4			2	4
Senile Dementia											1	2
IV.AFFECTIONS PRODUCED BY XTERNAL CAUSES:												
75.Food Poisoning				14		1		14			1	5
76.Attacks of poisonous nimals											2	11
Snake Bite		1		15				16			3	11
Insect Bite			2	1			2	1			25	10
77.Other accidental oisonings				12		1		12			4	
78.Burns (by fire)		5	1	45		5	1	45		5	11	96
79.Burns (other than by fire)		1	1	22		2	1	20		3	3	63
83.Wounds (by Firearms, war xcepted)				4				4			2	
84.Wounds (by cutting or tabbling instruments)		3	5	200		2	5	199		4	57	362
85.Wounds (by Fall)	1		1	55		1	2	54		1	37	226
86.Wounds (in Mines or uarries)				1				1				
87.Wounds (by Machinery)				11				10		1	23	25
88.Wounds (crushing e.g. ailway accidents etc)			4	14		1	4	14				
89.Injuries inflicted by nimals, Bites, Kicks etc.		2	3	75		1	3	71		6	12	39
94.Exposure to Heat												
Heatstroke				1				1			2	
Sunstroke											1	
tal carried forward	4	86	206	3970	3	101	207	3953	3	103	2585	15862

Disease	Cases remaining in hospital from previous year		Total Admission		Total Deaths		Total Cases Treated		Remaining in hospital at at end of year		Out-Patients	
	E	A	E	A	E	A	E	A	E	A	E	A
otal brought forward	4	86	206	3970	3	101	207	3953	3	103	2585	15862
95.Lightning Stroke				2				1		1		3
01.(a)Dislocation			1	7			1	7			3	13
(b)Sprain				7				6		1	36	92
(c)Fracture		7	12	117			12	121		3	31	78
02.Other external Injuries		3		14				17			7	10
V.ILL-DEFINED DISEASES:												
05.(a)Diseases not already pecified or ill-defined				1						1	1	
Oedema				1				1				14
Asthenia				2				2			6	
(b)Malingering				3				3				
VI.DISEASES, THE TOTAL OF HICH HAVE NOT CAUSED 10 EATHS:			14	30			14	28		2	671	1755
RAND TOTAL	4	96	233	4154	3	101	234	4139	3	111	3340	17827
TTENDANTS				504						7		
E-ATTENDANCES											3784	13412

METEROLOGICAL OBSERVATIONS.

SWAZILAND 1951.

Station - Mbabane (Highveld).

Alt. 3,800 feet.

Month	Air Temperature °F				Rainfall	
	Mean Max	Mean Min	Actual Max	Actual Min	Total	No. of days
January	72.09	55.93	89.0	44.0	6.66	12
February	80.04	57.83	88.5	47.0	2.57	10
March	71.39	57.43	85.0	45.0	7.51	14
April	73.53	54.39	85.0	45.0	4.20	8
May					1.65	7
June					0.04	1
July	62.23		75.5		0.42	3
August						
September						
October	73.27		94.0		7.19	19
November						
December						
Year						

/Average 56.46/

	Station - Bremersdorp (Middleveld)					
January	80.10	62.50	93.5	52.5	3.40	12
February	85.30	63.90	94.5	54.0	2.89	5
March	82.10	63.20	99.5	50.8	3.44	13
April	80.10	59.90	89.5	50.5	4.95	9
May	74.50	53.40	91.0	46.0	1.53	6
June	72.01	44.80	84.0	37.5	0.32	2
July	71.30	46.51	84.5	40.5	0.21	3
August	74.10	49.40	89.0	42.5	4.92	5
September	75.60	54.30	97.0	47.0	0.68	7
October	78.40	60.40	104.0	53.0	4.95	19
November	83.80	60.30	100.5	49.0	1.38	5
December	84.90	65.40	98.5	55.5	2.39	14
Year	78.51	57.00	104.0	37.5	31.06	100

/Average 33.78/

METEROLOGICAL OBSERVATIONS.

SWAZILAND 1951.

Station - Hlatikulu - (Highveld).

Alt. 3890 feet.

Month	Air Temperature °F				Rainfall	
	Mean Max	Mean Min	Actual Max	Actual Min	Total	No. of days
January	71.0	55.0	82.0	47.0	4.31	12
February	75.0	58.0	83.5	48.5	1.98	10
March	74.0	57.0	89.0	48.0	3.98	13
April	71.0	53.0	80.5	49.0	5.88	11
May	66.0	49.0	82.0	43.0	1.52	5
June	63.0	44.0	73.5	37.0	0.17	1
July	62.0	43.0	75.0	38.0	0.99	2
August	67.0	48.0	77.0	41.0	3.67	5
September	78.0	55.0	99.0	40.0	0.82	5
October	70.0	54.0	93.0	48.0	6.51	15
November	75.0	53.0	91.0	46.0	1.58	4
December	74.0	56.0	86.0	49.0	6.69	13
Year	70.5	52.1	99.0	37.0	38.10	96
					Average 45.85	

	Station - Stegi (Lowveld)					
January	79.29	52.38	91.5	45.0	2.73	3
February	85.57	63.34	92.3	50.5	0.77	4
March	81.03	59.24	91.0	49.5	2.44	8
April	76.17	58.63	89.2	51.0	3.17	4
May	69.17	52.68	86.2	46.2	1.39	5
June	70.33	47.70	79.1	41.5	0.50	2
July	72.47	53.89	80.1	41.4	0.54	3
August	70.28	50.60	84.3	46.9	5.14	4
September	74.32	53.88	85.1	45.1	0.56	6
October	78.96	56.80	104.1	52.1	3.47	13
November	80.58	54.94	95.2	48.8	4.93	3
December	82.30	59.99	93.4	53.6	5.97	7
Year	76.7	53.7	104.1	41.5	31.61	62
					Average 29.61	